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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,374	02/11/2004	Julio Concha	60,246-265; 10,802	3196
26096	7590	04/14/2006	EXAMINER	
CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009			TANNER, HARRY B	
			ART UNIT	PAPER NUMBER
			3744	

DATE MAILED: 04/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/776,374	CONCHA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Harry B. Tanner	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 13-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-12, 18, 19 and 21 is/are rejected.
- 7) ☒ Claim(s) 5, 6 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/12/05 &amp; 3/22/06</u>   | 6) <input type="checkbox"/> Other: _____                                    |

Applicant's election without traverse of the invention of Group I in the reply filed on 2/24/06 is acknowledged.

Claims 13-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 2/24/06.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 9 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daikin Industries (WO 03/064935) in view of Hoglund et al (5,438,844). Daikin Industries discloses a heat pump type water heater in which when the evaporator 28 is defrosted a hot gas bypass 38 is opened and the water pump 13 is stopped until a specified time after the defrost has been started where after the water pump is driven. Hoglund teaches the use of an algorithm involving outdoor air temperature for controlling the defrost operation of a heat pump in order to maximize heat transfer (see column 4, line 58 to column 4, line 13). It would have been obvious to one of ordinary skill in art to have modified the system of Daikin Industries to have used an algorithm involving outdoor air temperature for controlling the defrost operation of a heat pump in order to maximize heat transfer in view of the teachings of Hoglund. The repetition of the stopping and starting of the water pump during the defrost

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operation is an obvious variation of the Daikin Industries control. The use of experiments to develop control algorithm parameters that represent the actual environment of a system is conventional procedure in the art.

Claims 7-8, 18-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daikin Industries in view of Hoglund et al as applied to claim 1 above, and further in view of Bahel et al (5,319,943). Bahel teaches the use of a control of the evaporator fan that stops the fan when the defrost is started and then starts the fan at the end of the defrost period (see column 10, lines 11-38). It would have been obvious to one of ordinary skill in art to have modified the system of Daikin Industries to include use of a control of the evaporator fan that stops the fan when the defrost is started and then starts the fan at the end of the defrost period in view of the teachings of Bahel.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Daikin Industries in view of Hoglund et al as applied to claim 1 above, and further in view of Guo et al (6,318,095). Guo teaches the use of the difference between outdoor temperature and the temperature downstream of the evaporator in order to determine when to defrost a heat pump evaporator. It would have been obvious to one of ordinary skill in art to have modified the defrost control of Hoglund et al such that it included the use of the difference between outdoor temperature and the temperature downstream of the evaporator in order to determine when to defrost the evaporator in view of the teachings of Guo.

Claims 5-6 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry B. Tanner whose telephone number is (571) 272-4813. The examiner can normally be reached 8:30 am to 5:00 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler, can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Harry B. Tanner", with a stylized, cursive script.

Harry B. Tanner  
Primary Examiner  
Art Unit 3744